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105. An Occurrence of Praestriaptychus? in the Upper Jurassic of Japan

By

Takumi NAGAO

(Read February 18th, 1939; received April 5th, 1940)

Aptychi seem to be extremely rare in the Japanese Jurassic, *Cornaptychus nagatoensis* NAGAO[1] from the Lias of the province of Nagato being the unique example hitherto recorded. Recently Prof. H. YABE of the Institute of Geology and Palaeontology, Tôhoku Imperial University, kindly submitted for determination to the writer an aptychus obtained from the Upper Jurassic rocks in the southern part of the Kitakami Mountainland in Northern Honsyû. The specimen is, as described below, represented by a cast of a two-valved operculum with the ornamentation of either outer or inner surface impressed on the matrix. The parent ammonite is unknown at present. In the district where this operculum has been obtained, the Upper Jurassic rocks[2] composed mainly of dark coloured hard slaty shale alternated with sandstone are developed. On the label sent to the writer together with the specimen is recorded that it had been found at a locality with, separately, a specimen of *Perisphinctes* (*Aulacosphinctes*?) sp. No ammonite of other genera is yet reported to occur in this complex, it will be very natural to suppose that this operculum belongs to some form of this genus.

Praestriaptychus? sp.

Type specimen: A cast impressed on dark coloured slaty shale.

Locality and horizon: Tomari, Ôhara-mura, Ozika-gun, Miyagi Prefecture;[3] Ozumi bed.[4]

Aptychus composed of two valves joined along the straight harmonic margin, height smaller than twice the maximum breadth; valve semi-oval in outline with the maximum breadth near the apex, and thence gradually narrowing toward the external end. Lateral margin arcuate, passing gradually into the external one and

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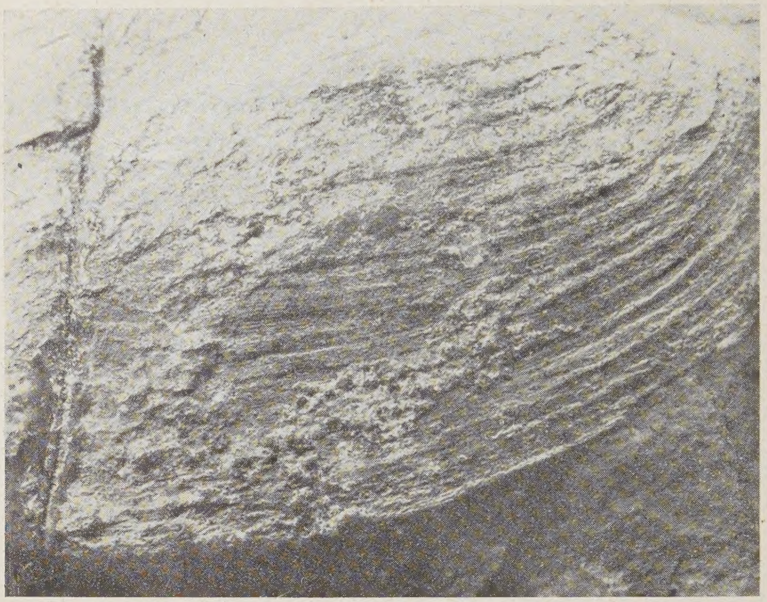
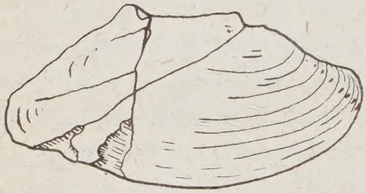
[1] T. NAGAO: *Cornaptychus* from the Jurassic of Japan, Proc. Imp. Acad., VII, no. 10, 1932, p. 511, text-figs. 1–3. This form has been considered by Prof. TRAUTH as a variety of *C. stenohythensis* TRAUTH. (F. TRAUTH: Die zweivalirgen Aptychen des Lias, Part I, 1935, Pl. VI, fig. 17; Pt. II, 1936, p. 14, Pl. II, fig. 1.)

[2] T. TAKAHASI: On the Mesozoic Plant-bearing Deposits of Ozika Peninsula, Miyagi Prefecture, Jubilee Publ. Comm. Prof. H. YABE, Sixtieth Birthd. Vol. II (in Preparation).

[3] 宮城縣牡鹿郡大原村泊

[4] 小積層





abruptly, over the narrowly rounded umbonal angle, into the nearly straight and rather long internal margin which forms an obtuse angle with the symphysial margin ; outer margin incomplete but apparently very short and convex.

Outer surface of the specimen very weakly convex both from the inner margin to the outer and from the lateral margin to the symphysial, ornamented with crowded, round-topped, rather broad, more or less elevated concentric ribs (or folds) parallel with the margins, and concave interspaces in alternation ; the ribs more elevated and narrower on the earlier stage, becoming broader, lower and more crowded toward the margins where the interspaces are narrower than the ribs themselves. Close-set, very fine concentric striations (growth-lines) cover the ribs and interspaces. Adsymphysial area not well defined, keel not well developed.

Measurements of left valve, as preserved.

Maximum height	ca. 34 mm.
Length of harmonic line	ca. 27 mm.
Maximum breadth	ca. 19 mm.

In the present specimen the impression of both valves is represented, but the outline of one of the valves is much obliterated owing to secondary deformation. The opposite valve itself has been subjected to some torsion, so as to be lengthened a little along the line connecting the umbilical angle with the terminal one. The original contour of the left valve may have been slightly more broadly semi-oval with the lateral margin more broadly convex.

In the present state of preservation, especially since the outer mould on which the external ornamentation may have been clearly impressed was not collected, it is very difficult to determine whether the concentric ornamentation shown on the convex surfaee of the specimen belongs to the internal or concave surface of the valves or the external or convex one. Until this is settled the features of the operculum under consideration can not be reconstructed with certainty to place this specimen safely under any of the determined types or forms.

The calcareous layer does not remain in the specimen, but the valves are presumably very thin; from this feature togethere with the characteristic concentric ornamentation, although it is not determined whether the latter is the external or internal, the present operculum most probably belongs to *Striaptychus* in the broad sense[1] as defined by Prof. F. Trauth, which includes *Praestriaptychus*,[2] *Granulaptychus*[3] and *Striaptychus* (s. str.).[4] These three "subtypes" have many features in common, especially a thin calcareous layer and concentric ribs or folds.

Some *Perisphinctes* have been determined with some certainty to bear *Granulaptychus*. This type of opercula, with its range from Dogger to Malm, is characterised in having the inner concave surface concentrically sculptured and the outer convex surface ornamented rather irregularly with granules or stocks.

In the present specimen no trace of granular ornamentation is preserved. If the preserved ornamentation is derived from the convex surface of the original aptychus, then this operculum can not be a *Granuaptychus*, while if the ornamentation is attributable to the concave surface of the valve, that is to say the specimen at hand is the inner mould, this operculum may belong to any of the three "subtypes" cited above. Thus operculum may be *Granulaptychus* which has been known to belong to some forms of *Perisphinctes* as above mentioned.

On the other hand, from the presumable thin test of the valves, it seems advisable to consider the present specimen as representing the external ornamentation that is the external "cast" impressed on the internal "mould," a very common case of many thin-texted specimens of *Perisphinctes* met with in this district and other parts of Japan. Hence, it is not deniable that we are treating an operculum of *Praestriaptychus*. This type of operculum remained long unknown from the Upper Jurassic and it was thought that in the history of *Striaptychus* (s. lat.) a greeat gap had intervened between the Dogger from which imperfectly known *Praestriaptychus* are met with and the Upper Cretaceous dominated by

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[1] F. Trauth: Aptychenstudien V, 1930, Die Aptychen des Dogger, p. 379.

[2] F. Trauth: Ibid., p. 378.

[3] F. Trauth: Ibid., p. 387.

[4] F. Trauth: Aptychenstudien II, 1928, Die Aptychen der Oberkreide, p. 134.

Striaptychus (s. str.).

Lately TRAUTH[1] demonstrated that Praestriaptychi occurred in the Upper Jurassic. From the Upper Jurassic of Wüttenburg is known a *Praestriaptychus* which was found in a shell of *Perisphinctes* and TRAUTH named it *Praestriptychus fraasi* TRAUTH. The operculum from Japan seems to be akin to this form of *Praestriaptychus,* especially to the specimen illustrated by TRAUTH in pl. X, fig. 5,[2] although a more precise comparison is prevented owing to the very imperfect state of the Japanese fossil.

At the end the writer wishes to express his thanks to Prof. YABE for the loan of the present specimen.

本邦上部ジュラ層產 *Praestriaptychus* （摘要）

長　尾　　巧

本邦ジュラ紀層には aptychus は極めて少く只 *Cornaptychus nagatoensis* NAGAO（長門ライアス層產）が知られてゐるに過ぎない。今回東北帝大矢部教授の御好意により北上南部上部ジュラ小積層產出の aptychus を檢し得た。これを產した地では *Perisphinctes* (*Aulacosphinctes ?*) sp. が採集されたのみで，從てこの aptychus もこの類のアンモナイトのものと考へる。本標本を檢すると TRAUTH の *Striaptychus* (s. l.) であつて，不完全である爲夫れ以上のことは不明であるが，*Granulaptychus* といふよりも寧ろ *Praestriaptychus* でないかと思ふ。*Praestriaptychus* は中部ジュラより上部白堊紀に至る長期間からは從來確に知れてゐなかつた。

しかし最近 TRAUTH は上部ジェラより產出する數例を報じ，特に Wüttenburg 上部ジュラ層よりは *Perisphinctes* の殼中に入つてゐる例をあげてゐる。これは *Praestriaptychus fraasi* TRAUTH と命名されたが，本邦產のものは之れに類似してゐる。

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1) F. TRAUTH: Aptychenstudien V, 1930, Die Aptychen des Dogger, p. 379.

2) F. TRAUTH: Die Praestriaptychi und Granulaptychi des Oberjura und der Unterkreide. Palaeont. Zeitschr., vol. XIX, 1937, p. 138, pl. X, figs. 1-7; pl. XI, fig. 1.

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106. *An Interesting Pecten from the Nanakita Beds, Nenosiroisi-mura, Miyagi-gun, Miyagi-ken*

By

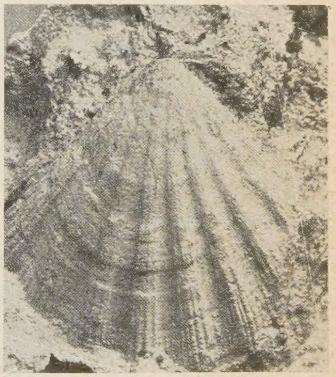
Manzirô NAKAMURA

(Read and received April 27th, 1940)

The present specimen was collected by the writer from the southern slope of Dôniwayama, Nenosiroisi-mura, Miyagi-gun[1]. Although represented by only a single cast, it appears to be new to science and is given the following name and description.

Pecten (*Swiftopecten*) *nanakitaensis*, n. sp.

A single right valve. Shell rather small in size, measuring 41mm in altitude, 38.5mm in breadth, about 7mm in depth and about 85° in apical angle. Valve compressed, broadly pear-shaped, sculptured with about either prominent ribs; posterior ear broken. Ribs eight in number, roundly elevated, about equal to its interspaces anteriorly, its backs and sides provided with about 5 radial threads, which are marked only on the anterior half of shell, posteriorly becoming weaker and at apical region altogether obliterated; interspaces of main ribs provided with 3–4 radial threads which extend posteriorly to only half of shell length. Main ribs much broader than their shallow interspaces at apical region, gradually becoming nearly equal to the interspaces in breadth anteriorly, and at anteriormost margin, nearly equal. Posterior slope of shell provided with several weak radial threads, the anterior slope also provided with a few, which are nearly obsolete. Hinge-line short, posterior ear broken, the anterior one short, provided with a few threads. Interior features unknown.



Text-fig. 1. *Pecten nanakitaensis* n. sp. ×1

Locality :—Dôniwayama, Nenosiroisi-mura, Miyagi-gun, Miyagi-ken. Reg. No. 61334.

Horizon :—Lower part of the Nanakita beds.

Compared with *Pecten crassivenius* YOKOYAMA[2], a Miocene shell from near Nanao, Kasima-gun, Isikawa-ken, the present one has a smaller shell, fewer number of radial ribs, and the sculpture of the ribs are entirely different. YOKOYAMA's species is provided with ribs which are trichotomous and coarsely scaly, while the present one lacks the scaly sculpture.

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[1] M. NAKAMURA : Remarks on Certain Pectinidae Fossils from the Tomiya Block, Miyagi-ken, Jap. Jour. Geol. Geogr., Vol. 17, No. 1–2, pp. 1–15, 2 pls., 1940.

[2] M. YOKOYAMA : Pliocene Shells from near Nanao, Noto, Imp. Geol. Surv. Japan, Rep. No. 104, p. 6, pl. 6, fig. 1, 1929.

Compared with *Pecten* (*Swiftopecten*) *swiftii* Bernardi, figured by Grant and Gale[1] (including the forms *parmeleei* Dall, *wattsi* Arnold and *kindlei* Dall, also figured by Grant and Gale in the same work), the present one has more delicate sculpture on the ears, a less number of much weaker radial threads, a greater number of prominent ribs, a smaller shell, and smaller ears.

Compared with *Pecten hastatus strategus* Dall, figured by Arnold[2] from the Pliocene of Santa Barbara, California, the present one has a less number of radial ribs, less orbicular shell outline, less prominent radial threads at the anterior half of the shell, and weaker sculpture on the posterior half of the shell.

Some varietal forms of *Pecten cosibensis* Yokoyama[3] and *P. heteroglyptus* Yokoyama[4] also somewhat resemble the present one, but the characters of sculpture readily remove the present one from Yokoyama's species.

Pecten (*Swiftopecten?*) *otutumiensis* Nomura and Hatai[5] from the Otutumi beds of the Tomiya Block in Miyagi-ken, somewhat resembles the present species, but the main ribs in that species bifurcate and they are said to be imbricated, while in the present one the ribs do not bifurcate and the whole surface is not imbricated as in that species.

At this place the writer wishes to thank Prof. H. Yabe for kindly giving him permission to submit this article for publication. He also extends his thanks to Dr. S. Nomura and Mr. K. Hatai for their suggestions and help during the preparation of this article.

宮城縣根ノ白石村近傍七北田層産の帆立貝化石の 1 新種に就いて （摘要）

中 村 萬 次 郎

筆者は曩に宮城縣富谷地塊より産する帆立貝化石に就いて報告したが，更に同地塊七北田層より新種と思はるゝものを發見したので，是を報告する。本種に類似せるものとしては，*Pecten crassivenius*, *P. hastatus strategus*, *P. cosibensis*, *P. heteroglyptus* 及び *P. otutumiensis* がある。筆者は本文中に記載せる如く該種に對して *Pecten nanakitaensis* と命名した。

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[1] U. S. Grant and H. R. Gale: Catalogue of the Marine Pliocene and Pleistocene Mollusca of California and Adjacent Regions, Mem. San Diego Soc. Nat. Hist., Vol. 1, p. 171, pl. 10, figs. 1-5, 7, 1931.

[2] R. Arnold: New and Characteristic Species of Fossil Mollusks from the Oil-Bearing Tertiary Formations of Southern California, Proc. U. S. Nat. Mus., Vol. 32, No. 1545, pl. 50, fig. 13, 1907.

[3] M. Yokoyama: Fossils from the Miura Peninsula and Its Immediate North, Jour. Coll. Sci., Imp. Univ. Tokyo, Vol. 39, Art. 6, p. 156, pl. 13, figs. 7, 8, 1920.

[4] M. Yokoyama: Fossil Shells from Sado, Jour. Fac. Sci., Imp. Univ. Tokyo, Sec. 2, Vol. 1, Pt 8, p. 304, pl. 33, figs. 1-8, 1926.

[5] S. Nomura and K. Hatai: A List of the Miocene Mollusca and Brachiopoda Collected from the Region Lying North of the Nanakita River in the Vicinity of Sendai, Rikuzen Province, Japan, Saito Ho-on Kai Mus., Res. Bull., No. 13, p. 130, pl. 18, fig. 7, 1937.

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107. On Some Fossils from the Hukaura Beds Nisi-Tugaru District, Aomori Prefecture, Northeast Honsyû

By

K. M. HATAI and M. NAKAMURA

(Read and received April 27th, 1940)

During a short trip to several localities within Aomori Prefecture, the writers had a chance to visit the Hukaura beds, and to collect some fossils from the beds. Hitherto, the Hukaura beds have been known to be very young in aspect, but as to the geological age from fossil-content, nothing was known. This is due to the fact, that the Hukaura beds are very scanty in fossil content, and that to collect even a few fragments, considerable time is required. The fragments collected by the writers are briefly mentioned in this article in order that other authors in concern may get an idea of the kind of fossils the Hukaura beds contain.

The Hukaura beds, as worked out by S. SHIBAYAMA[1] in his graduation thesis, is the youngest Neogene deposit found in Nisi-Tugaru District, and consists of soft pumiceous tuff, cross-bedded loose sandstone, coarse-grained sandstone, sandy conglomerate and rather calcareous sandstone, with some shale. The present fossils of the writers are from the calcareous sandstone and coarse-grained sandstone layers. The Hukaura beds unconformably overlie the next older Azigasawa beds, which in turn is conformable to the underlying Akaisi beds; the Akaisi beds are unconformable to the next older Tanosawa beds, which in turn unconformably overlie the lowest or Ôdose beds.

Genus *Pecten* MÜLLER, 1776

Pecten ingeniosa YOKOYAMA, 1929

1929 *Pecten* (*Chlamys*) *hastatus* SOWERBY, var. *ingeniosa* YOKOYAMA, Pliocene Shells from near Nanao, Noto, Rep. Imp. Geol. Surv. Japan, No. 104, p. 5. pl. 5, fig. 2.

1932 *Chlamys farreri ingeniosa* KURODA, Catalogue of Japanese Shells, Venus, Vol. 3, No. 2. appendix p. 92.

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1) K. M. HATAI and M. NAKAMURA: Remarks on the Geology of Aomori Prefecture, Northeast Honsyû, Japan, Jap. Jour. Geol. Geogr., Vol. 17, Nos. 1-2, 1940. In this article is given a full review of the stratigraphy and palaeontology of Aomori Prefecture. K.M. HATAI: The Cenozoic Formations and Fossils of Northeast Honsyû, Japan (MS). This article treats all of the Cenozoic formations and their fossils of Northeast Honsyû, and details are given concerning the geology of Aomori Prefecture.

M. YOKOYAMA compared this species with *Pecten hastatus* SOWERBY, var. *hindsii* CARPENTER, described and figured by R. ARNOLD from the Neogene of California. He also compared *Pecten islandicus* MÜLLER with the present species. However, the two mentioned ones of California are said to differ from the Noto specimen by the shell-sculpture and length of the hinge. T. KURODA, as a result of his studies on the Japanese Pectinidae, found that M. YOKOYAMA's species should be considered as a subspecies of *Chlamys farreri* (JONES and PRESTON), from Chinese waters. Judging from figures, it appears that M. YOKOYAMA's species could be taken as a subspecies of *Chlamys chosenica* KURODA, seeing that the type of radial ribs are similar.

Type Locality:—Near Nanao-mati, Noto Peninsula, Isikawa Prefecture (Noto Province). Probably from the Nanao beds.

Occurrence:—A cliff consisting of calcareous sandstone, sandy conglomerate and coarse-grained sandstone beyond Yunosawa, Hukaura-mati, Nisi-Tugaru-gun. Reg. No. 61377. The Hukaura beds.

Pecten heteroglyptus YOKOYAMA, 1926

1926 *Pecten heteroglyptus* YOKOYAMA, Fossil Shells from Sado, Jour. Fac. Sci., Imp. Univ. Tokyo, Sec. 2, Vol. 1, Pt. 8, p. 304, pl. 33, figs. 1-5, 8.

1930 *Pecten heteroglyptus* YOKOYAMA, Neogene Shells from Yamashiro, Jour. Fac. Sci., Imp. Univ. Tokyo, Sec. 2, Vol. 2, Pt. 10, p. 400.

1932 *Chlamys cosibensis heteroglyptus* KURODA, Catalogue of Japanese Shells, Venus, Vol. 3, No. 2, appendix p. 89.

1935 *Pecten* (*Pallium*) *heteroglyptus* NOMURA and HATAI, Pliocene Mollusca from the Daisyaka Shell-Beds in the Vicinity of Daisyaka, Aomori-ken, Northeast Honsyû, Japan, Saito Ho-on Kai Mus., Res. Bull., No. 6, p. 99, pl. 2, figs. 5, 6, pl. 3, figs. 1,2,7.

In regard to the variation of this species and its relation to other allied ones, .S NOMURA and K. HATAI have already given detail remarks in the paper cited above.

The present specimen, which is a fragment of a left valve (?), consists of the lower half of the shell. This fragment exhibits features nearly identical with figure 3 of *Pecten heteroglyptus* illustrated by M. YOKOYAMA (1926), except for the slightly stronger ribs.

Type locality:—Kaidate-no-sawa, Sawane-mati, Sado-gun, Sado Island, Niigata Prefecture (Sado Province). Probably from the Sawane beds.

Occurrence:—A cliff consisting of calcareous sandstone, sandy conglomerate and coarse-grained sandstone beyond Yunosawa, Hukaura-mati, Nisi-Tugaru-gun. Reg. No. 61378.

Pecten cf. *islandicus* MÜLLER, 1776

1924 *Pecten islandicus* OLDROYD, The Marine Shells of the West Coast of North America, Stanford Univ. Publ., Geol. Sci., Vol. 1, No. 1, p. 54. pl. 8, figs. 1, 2.

The present specimens which are mostly fractured valves, rather closely resemble the named species in the formation of the radial sculpture and ears. However, the present specimens are smaller in size, more compressed and with a fewer number of radial ribs, compared to *P. islandicus.* Among the specimens at hand, a few have rather inflated shells.

Whether the present specimens can be considered as a varietal form of the named species, or whether they should be described as new to science is open to question, and only the futher accumulation of good specimens will settle the problem. For the present, the writers hesitate to establish a new specific name, owing to the unfavorable state of preservation of the specimens.

Type locality:—Northern seas, and distributed in the Arctic Ocean, Kamchatka and Puget Sound; also in the Atlantic.

Occurrence:—A cliff consisting of clacareous sandstone, sandy conglomerate and coarse grained sandstone beyond Yunosawa, Hukaura-mati, Nisi-Tugaru-gun. Reg. No. 61379.

Pecten species indet.

A small size scallop, suborbicular in outline, moderately inflated, sculptured by numerous radial ribs which are roundly elevated, broader than their interspaces and show a tendency to bifurcation at margin; the hinge-line is rather long, ears unequal and radiately sculptured. This scallop resembles no described species from Japan either fossil or recent, but a new name is not given to it because of its being immature.

Occurrence:—A cliff consisting of calcareous sandstone, sandy conglomerate and coarse grained sandstone beyond Yunosawa, Hukaura-mati, Nisi-Tugaru-gun. Reg. No. 61380.

Genus *Ostrea* LINNAEUS, 1758

Ostrea gigas THUMBERG, 1793

1937 *Ostrea* (*Crassostrea*) *gigas* NOMURA and HATAI, A List of the Miocene Mollusca and Brachiopoda Collected from the Region Lying North of the Nanakita River in the Vicinity of Sendai, Rikuzen Province, Japan, Saito Ho-on Kai Mus., Res. Bull., No. 13, p. 126. pl. 18, fig. 3.

Several water-worn specimens of this well-known recent and fossil species of Japan is found in the present collection. The valves which are badly fractured in most cases are somewhat thicker than those of recent specimens, but this difference is frequently a result of the local environmental conditions under which these sessile oysters live. Those which live in environments of shallow muddy beaches as in Matusima bay near Sendai, have thin and small shells, while those which live in regions of the open sea have much thicker shells. That oysters show considerable variation in the thickness of their shells according to habitat is well known, and further remarks are unnecessary.

Type locality:—Unknown to the writers.

Occurrence:—A cliff consisting of calcareous sandstone, sandy conglomerate and coarse-grained sandstone beyond Yunosawa, Hukaura-mati, Nisi-Tugaru-gun. Reg. No. 61381.

Genus *Acmaea* ESCHSCHOLTZ, 1830

Acmaea species indet.

A single specimen, partly broken and embedded in the matrix. It is subovate in outline, apex nearly central and rather elevated.

Occurrence:—A cliff consisting of calcareous sandstone, sandy conglomerate and coarse-grained sandstone beyond Yunosawa, Hukaura-mati, Nisi-Tugaru-gun. Reg. No. 61381.

Besides the above mentioned fossils there are also many echinoid-spines and a few remains of a certain bryozoan, in addition to several fragments of the test of a certain sea-urchin, probably close to *Strongylocentrotus*.

Among the species mentioned, *Pecten ingeniosa* YOKOYAMA was first described from the Miocene Nanao beds of Isikawa Prefecture, and range in time from the Miocene to Pliocene (?) *Pecten heteroglyptus* YOKOYAMA was first described from Pliocene deposits of Sado Island, Niigata Prefecture; possibly from the Sawane beds. This species ranges from the Miocene to Pliocene in time. *Pecten* cf. *islandicus* MÜLLER does not appear to be living in Japanese waters, or elsewhere and probably it represents a new species. *Pecten* species indet., may also probably represent a new species, but being immature, it was given no name. *Ostrea gigas* THUMBERG is a living species which ranges in time from the Miocene to recent. *Acmaea* species indet., may probably be a living species, but since its outer sculpture is embedded in the matrix, nothing definite can be stated.

From the above fossil fauna, the geological age of the Hukaura beds seems to be not younger than the Pliocene, the term being used in the sense now employed by the members of the Institute of Geology and Palaeontology, Tôhoku Imperial University, Sendai. However, whether the geological age is Lower Pliocene or Upper Miocene, must be left until further specimens can be collected. From the occurrence of *Pecten ingeniosa* it appears that the geological age might be Lower Pliocene, and not Upper Pliocene.

At this place the writers wish to express their thanks to Prof. H. YABE of the Institute of Geology and Palaeontology, Tôhoku Imperial University, for kindly giving the writers permission to publish this note. Acknowledgements are also due to the Saito Ho-on Kai Foundation in Sendai, for the grant-in-aid, which enabled the senior writer to visit many localities in Northeast Honsyû.

青森縣西津輕郡深浦層產化石 2, 3 に就いて（摘要）

畑井小虎・中村萬次郎

筆者等は青森縣西津輕郡深浦町近傍に發達する所謂深浦層の石灰質砂岩及粗粒砂岩中より化石を採集したので，今回其等化石を報告し，且つ該地層の時代について論ずるものである。

本文中に記載したる化石から觀て，深浦層は鮮新統より若くはないであらう。然し下部鮮新統か或は中新統のいづれに屬ずるかは今後の精査によつて明らかにしたい。ただ *Pecten ingeniosa* を含有する點から見て下部鮮新統に近いものゝ如く思はれる。

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108. 尼瀬油田附近産の第三紀有孔蟲化石に就て

大炊御門經輝

（昭和 15 年 6 月 14 日受理，6 月 29 日講演）

尼瀬油田は新潟縣三島郡出雲崎町に在り，出油區域には寺泊層が露出してゐる。尼瀬油田の附近には比較的狹い區域に越後の油田を構成する第三系の大部分が發達し，特に中越統上部の灰爪層には貝殼の破片を多量に混ぜた砂層，所謂夏川層がよく發達し，廣く追跡される。

灰爪層の有孔蟲化石に關しては嘗て矢部長克教授及び半澤正四郎博士の研究があり，出雲崎町の北東約 3 km の久田から多數の有孔蟲化石が報告されてゐる。然し其の後此の地方の有孔蟲化石は久しく省みられず，有孔蟲化石群を取扱つた報告は矢部•半澤兩博士の研究以來絶へてゐた。筆者は尼瀬油田•西山油田附近に露出する第三紀層，主として灰爪層から多數の有孔蟲化石を採集したが，今回は尼瀬油田附近のものを簡單に報告する次第である。

採集した地點及び地層は第 1 表及び第 1 圖に示してある。

第 1 表

	地層	產地番號	採集地
中越統	灰爪層	58	新潟縣三島郡西越村船橋の北
		55	同縣　同郡　同村　稻川の東
		57	同縣　同郡　同村　稻川
	西山層	65	同縣　同郡　同村　稻川の西
	椎谷層	66	同縣　同郡　同村　荒城址の東
		67	同縣　同郡　同村　同　トンネル北口
		68	同縣　同郡　同村　中山の南
頸城統	寺泊層	69	同縣　同郡　出雲崎町蛇崩丘

以上の各地點から採集した有孔蟲化石は第 2 表に掲げてある。產出頻度は abundant, common, 及び rare の 3 階段に分類した。大體 100 cc の母岩を處理して最も多量の場合に化石標本用の小硝子管瓶に略一杯の有孔蟲を得たが，其を基準として產出頻度を定めた。

灰爪層　本層の化石產地は何れも所謂夏川層の露頭で，產地 55 と產地 57 とは同一層準にあり，產地 58 は兩產地よりも上位にある。灰爪層の有孔蟲は他の地層のものに比べ種類に於いても，亦個體數に於いても非常に優勢であるが，特に灰爪層の下部に位置する產地 55 と產地 57 のものが

第 2 表

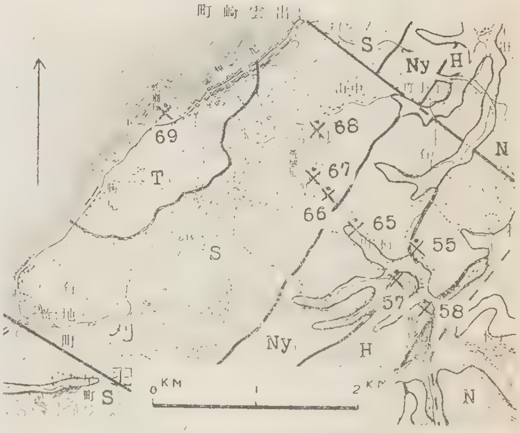
	灰爪層			西山層	椎谷層			寺泊層
	58	55	57	65	66	67	68	69
Lituolidae								
1. *Haplophragmoides subgrobosum* (Sars)	—	—	—	—	A	—	—	—
2. *Cyclamina pauciloculata* Cushman	—	—	—	—	R	—	R	C
Textulariidae								
3. *Textularia aggultinans* d'Orbigny	R	R	—	—	—	—	—	—
4. *T. gramen* d'Orbigny	C	R	R	—	—	—	—	—
5. *T. sagittula* Defrance	—	A	A	—	—	—	—	—
6. *T. stricta* Cushman	—	—	R	—	—	—	—	—
7. *T.* sp. 2	—	R	R	—	—	—	—	—
Vernuilinidae								
8. *Gaudryina quadrangularis* Bagg	—	—	R	—	—	—	—	—
9. *G. triangularis* Cushman	—	C	A	—	—	—	—	—
10. *G.* sp. 1	R	—	R	—	—	—	—	—
Valvulinidae								
11. *Gcësella* sp. 1	—	—	—	—	C	—	—	—
12. *Karreriella baccata japonica* Asano	—	R	R	—	—	—	—	—
13. *Listerella bradyana* Cushman	—	—	—	—	R	—	R	—
Miliolidae								
14. *Quinqueloculina curta* Cushman	—	R	R	—	—	—	—	—
15. *Q. lamarckiana* d'Orbigny	—	R	R	—	—	—	—	—
16. *Q. rugosa* d'Orbigny		C	C	—	—	—	—	—
17. *Q. seminulum* (Linné)	—	R	R	—	—	—	—	—
18. *Q. vulgaris* d'Orbigny	C	A	A	—	—	—	—	—
19. *Q.* cf. *yezoense* Asano	—	R	—	—	—	—	—	—
20. *Q.* sp. 1	—	R	—	—	—	—	—	—
21. *Q.* sp 6	—	R	R	—	—	—	—	—
22. *Q.* sp. 7	—	R	R	—	—	—	R	—
23. *Q.* sp. 11	—	R	R	—	—	—	—	—
24. *Spiroloculina antillarum* d'Orbigny	R	—	R	—	—	—	—	—
25. *S. canaliculata* d'Orbigny	—	—	R	—	—	—	—	—
26. *S. depressa* d'Orbigny	—	R	—	—	—	—	—	—
27. *S. grateloupi* d'Orbigny	—	—	R	—	—	—	—	—
28. *S.* cf. *costata* Hada	—	R	—	—	—	—	—	—
29. *Sigmoilina celata* Costa	—	R	R	—	—	—	—	—
30. *S. sigmoidea* (Brady)	—	R	—	—	—	—	—	—
31. *Hauerina fragilissima* (Brady)	—	—	R	—	—	—	—	—
32. *Triloculina circularis* Bornemann	—	R	C	—	—	—	—	—
33. *T. circularis sublineata* (Brady)	—	R	—	—	—	—	—	—
34. *T. oblonga* (Montagu)	—	—	R	—	—	—	—	—
35. *T. tricarinata* d'Orbigny	R	R	R	—	—	—	—	
36. *T. trigonula* (Lamarck)	R	C	R	—	—	—	—	—
37. *T.* sp. 1	—	R	R	—	—	—	—	—
38. *Pyrgo anomala* (Schlumberger)	—	R	R	—	—	—	—	—
39. *P. elongata* (d'Orbigny)	—	R	R	—	—	—	—	—
40. *P.* sp. 1	—	R	—	—	—	—	—	—
41. *P.* sp. 2	—	R	R	—	—	—	—	—
Ophthalmidiidae								
42. *Planispirina sphaera* (d'Orbigny)	—	R	—	—	—	—	—	—
Nodosariidae								

	灰爪層			西山層	椎谷層			寺泊層
	58	55	57	65	66	67	68	69
43. *Planularia tricarinella* (REUSS) var.	—	R	—	—	—	—	—	—
44. *Marginulina glabra* d'ORBIGNY	—	R	R	—	—	—	—	—
45. *Glandulina laevigata* (d'ORBIGNY)	—	R	—	—	—	—	—	—
46. *Oolina laevigata* (REUSS)	—	—	R	—	—	—	—	—
47. *O. marginata* (WALKER and BOYS)	—	R	—	—	—	—	—	—
48. *Dentalina setanaensis* ASANO	—	R	—	—	—	—	—	—
49. *Nodosaria pyrula* d'ORBIGNY	—	—	R	—	—	—	—	—
50. *Lagenodosaria scalaris* (BATSCH)	—	R	R	—	—	—	—	—
51. *Lagena acuticostata* REUSS	—	R	R	—	—	—	—	—
52. *L. elongata* (EHRENBERG)	—	R	—	—	—	—	—	—
53. *L. hexagona* (WILLIAMSON)	R	R	R	—	—	—		
54. *L. squamosa* (MONTAGU)	—	R	R	—	—	—		—
55. *L. striata strumosa* REUSS		R	R	—		—		—
56. *L. sulcata* (WALKER and JACOB)	—	—	R	—	—	—	—	—
57. *L.* sp. 2	—	R	—	—	—	—	—	—
58. *Robulus limbosus* (REUSS)		R	R				—	—
59. *R. orbicularis* (d'ORBIGNY)	—	R	—	—	—	—	—	—
60. *Fissurina circulo-costata* ASANO	—	—	R	—	—	—	—	—
61. *F. orbignyana* (SEGUENZA)	—	R	—	—	—	—	—	—
62. *F. orbignyana laccunata* (BURROWS and HOLLAND)	—	R	R	—	—		—	—
Polymorphinidae								
63. *Guttuluina austriaca* d'ORBIGNY	—	—	R	—	—	—	—	—
64. *G. orientalis* CUSHMAN and OZAWA	R	—	R	—	—	—	—	—
65. *G. yamazakii* CUSHMAN and OZAWA	—	R	R	—	—	—	—	—
66. *G. yabei* CUSHMAN and OZAWA	—	C	—	—	—	—	—	—
67. *G. irregularis* d'ORBIGNY var.	R	R	—	—	—	—	—	—
68. *G.* cf. *spicaeformis* (ROEMER)	R	—	—	—	—	—	—	—
69. *G.* sp. 6	—	R	R	—	—	—	—	—
70. *Pseudopolymorphina hanzawai* CUSHMAN and OZAWA	—	—	R	—		—		—
71. *P. suboblonga* CUSHMAN and OZAWA	—	—	R	—	—	—	—	—
72. *Sigmomorphina setanaensis* ASANO	—	R	—	—	—	—	—	—
73. *S. trilocularis* (BAGG)	—	R	R	—	—	—	—	—
74. *S.* sp. 9	—	—	R	—	—	—	—	—
75. *S.* sp. 13	—	R	—	—	—	—	—	—
76. *Polymorphina charlottensis* CUSHMAN	—	R	R	—	—	—	—	—
Nonionidae								
77. *Nonion grateloupi* (d'ORBIGNY)	—	R	—	—	—	—	—	—
78. *N. pompilioides* (FICHTEL and MOLL)	—	R	R	—	—	—	—	—
79. *Pseudononion japonicum* ASANO	R	—	—	—	—	—	—	—
80. *Astrononion stelligerum* (d'ORBIGNY)	R	—	—	—	—	—	—	—
81. *Elphidium advenum* (CUSHMAN)	—	C	R	—	—	—	—	—
82. *E. crispum* (LINNÉ)	R	A	C	R	—	R	—	—
83. *E. jenseni* (CUSHMAN)	—	R	R	—	—	R	—	R
84. *E. subgranulosum* ASANO	—	—	R	—	—	—	—	—
85. *E.* sp. 2	R	—	R	—	—	—	—	—
Buliminidae								
86. *Bulimina aculeata* d'ORBIGNY	—	—	R	—	—	—	—	—
87. *B. inflata* SEGUENZA	—	—	R	—	—	—	—	—

	灰爪層			西山層	椎谷層			寺泊層
	58	55	57	65	66	67	68	69
88. *B. robusta* Brady	—	R	—	—	—	—	—	—
89. *Reusella spinulosa* (Reuss)	R	R	R	—	—	R	—	—
90. *Chrysalidinella dimorpha* (Brady)	—	R	R	—	—	R	—	—
91. *Uvigerina canariensis* d'Orbigny	—	R	—	—	—	—	—	—
92. *U. pygmaea* (+*bifurcata*) of Asano	R	R	R	—	—	—	—	—
93. *Siphogenerina raphana* (Parker and Jones)	—	—	R	—	—	—	—	—
94. *Angulogerina angulosa* (Williamson)	—	R	R	—	—	—	—	—
95. *Trifarina bradyi* Cushman	—	R	—	—	—	—	—	—
Rotaliidae								
96. *Discorbis bradyi* Cushman	R	R	R	—	—	R	—	—
97. *D. opercularis* (d'Orbigny)		—		—	—	R	—	—
98. *D. orbicularis* (Terquem)			R	—	—	R	—	—
99. *D. vilardevoana* (d'Orbigny)?	R	—	R	—	—	—	—	—
100. *Valvulineria allomorphinoides* (Reuss)	R	C	C	—	—	—	—	—
101. *Eponides concameratus* (Montagu)	—	R	R	—	—	—	—	—
102. *E. haidingerii* (d'Orbigny)	R	R	—	—	—	—	R	—
103. *E. karstenii* (Reuss)	—	R	—	—	—	—	—	—
104. *E. repandus* (Fichtel and Moll)	—	R	R	—	—	—	R	—
105. *E. tenerus* (Brady)	—	R	R	—	—	—	—	—
106. *Rotalia beccarii* (Linné)	—	R	—	—	—	—	—	—
107. *R. japonica* Hada	—	—	R	—	—	R	—	—
108. *Epistomina elegans* (d'Orbigny)	—	R	R	—	—	—	—	—
109. *Cancris auricula* (Fichtel and Moll)	—	—	R	—	—	—	—	R
110. *Baggina totomiensis* Makiyama	—	R	R	—	—	—	—	—
Cassidulinidae.								
111. *Cassidulina japonica* Asano and Nakamura	—	A	A	R	—	—	—	—
112. *C. subglobosa* Brady	—	—	—	—	—	R	—	—
113. *C. sublimbata* Asano and Nakamura	—	R	—	—	—	—	—	—
114. *C. yabei* Asano and Nakamura	—	R	R	—	—	—	—	—
Chilostomellidae								
115. *Pullenia quinqueloba* (Reuss)	—	R	—	—	—	—	—	—
116. *Sphaeroidina bulloides* d'Orbigny	—	R	—	—	—	—	—	—
Globigerinidae								
117. *Globigerina bulloides* d'Orbigny	C	A	A	—	—	R	—	—
118. *G. inflata* d'Orbigny	—	R	A	—	—	—	—	—
119. *G.* sp. 3	R	R	R	—	R	R	—	—
120. *G.* sp. 4	R	C	R	—	—	—	—	—
121. *Globigerinella aequilateralis* (Brady)	—	R	—	—	—	—	—	—
122. *G. subcretacea* (Chapman)	R	R	—	—	—	—	—	—
123. *Globigerinoides conglobata* (Brady)	R	R	R	—	—	—	—	—
124. *G. helicina* (d'Orbigny)	—	R	—	—	—	—	—	—
125. *G. rubra* (d'Orbigny)	—	R	—	—	—	—	—	—
Globorotaliidae								
126. *Globorotalia menardi* (d'Orbigny)	—	—	R	—	—	—	—	—
Anomalinidae								
127. *Anomalina* cf. *ammonoides* (Reuss)	R	R	R	—	—	—	—	—
128. *Planulina wuellerstorfi* (Schwager)	R	R	C	R	R	R	—	—
129. *Cibicides lobatulus* (Walker and Jacob)	R	A	A	—	—	R	—	—
130. *C. refulgens* (Montfort)	A	C	A	R	R	R	—	—
131. *C. ungerianus* (d'Orbigny)	—	—	R	—	—	R	—	—

A=Abundant: C=Common; R=Rare)

著しい。此の兩產地は矢部•半澤兩博士の報告せられた久田と同層位にあつて，有孔蟲の顏ぶれも大差無いが，久田で可なり普通に產する *Polystomellina discorbinoides* は發見されなかつた。又 *Cassidulina japonica* は產地 55 及び產地 57 でも多數に在るが，久田に於いては更に著しい。是は堆積當時の環境が多少異つてゐた爲であらうが，然し前述の樣に有孔蟲化石の優勢種は略同樣である。



第 1 圖　圖上の番號は產地番號を示す
T＝寺泊層　S＝椎谷層　Ny＝西山層　H＝灰爪層
N＝西越層

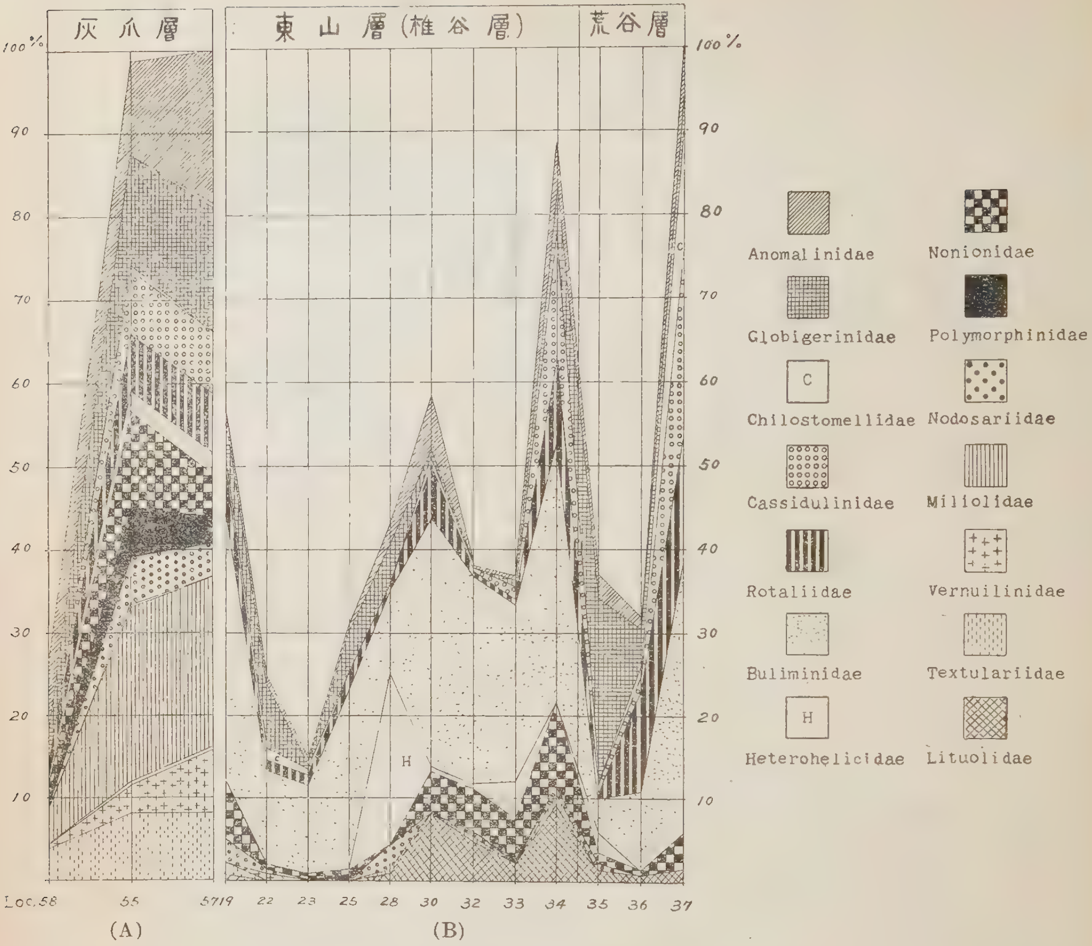
上位と下位の夏川層を比較して見ると，下位の夏川層に於いて個體數の多いものは *Textularia sagittula, Quinqueloculina vulgaris, Cassidulina japonica, Globigerina bulloides, Cibicides lobatulus* 等である。又種類の多いのは *Miliolidae* と *Nodosariidae* である。上位の夏川層に於いては *Cibicides refulgens* が目立つて多く，*Cassidulina* は見當らなかつた，恐らく非常に稀れなのであらう。產地 58 と同層準の他の數ケ所で採集した結果も *Cassidulina* は非常に少なかつたので，此の附近では上位の夏川層に *Cassidulina* が少い事を 1 つの特徵としても大過ないであらう。產地 58 では *Miliolidae* 及び *Nodosariidae* の種類は下位の 2 產地に比較して非常に少ない。

淺野淸學士に依り「砂質頁岩層」の有孔蟲化石群は夏川有孔蟲化石群と呼ばれてゐる。「夏川」は貝殼の破片等を多量に混ぜた石灰質砂岩に對する越後地方の方言で，且つ灰爪層に發達する所謂夏川層は數層あつて，多少有孔蟲の顏ぶれも異なるので，尼瀬•西山油田地方に於いて久田及び同層位の化石層の特徵ある有孔蟲群を新に久田有孔蟲化石群と呼ぶことにし，其の模式產地は久田とする。然し「夏川」は岩相を示すのに都合が良いので，本文中では其の意味で用ひてある。

西山層　採集したのは 1 ケ所で，且つ有孔蟲は非常に少なかつた。

椎谷層　本層の砂岩頁岩互層からは 3 ケ所で採集したが，何れも頁岩の部分を採集した。是等の採集地點の中で特色あるのは產地 56 で *Haplophragmoides subgrobosum* が非常に多く，*goïsella* sp. 1 も少なくない。他の 2 ケ所では *Nonionidae, Buliminidae, Rotaliidae* 等の數種しか無く，是等を以て椎谷層の有孔蟲群を代表させるには餘りに貧弱であるが，灰爪層の特徵ある種は何れも非常に劣勢か又は全然產しないことは興味がある。前回東山油田の野邊川の谷で採集した結果は椎谷層に對比される東山層に多數の有孔蟲を發見し，灰爪層に相當する白岩層からは極く僅かしか發見出來ず，上下の地層に就き充分な比較が出來なかつたが，今回灰爪層からは多數の有孔蟲を得たが下位の椎谷層からは非常に少なく今回も亦充分な比較が出來ないのは遺憾である。椎谷層の有孔蟲化石と東山層のものとを比べて著しい差は東山層に優勢である *Uvigerina* が椎谷層に無いことである。然しこれは偶々 *Uvigerina* に乏しい處を採集したのかもしれず，何分にも前回の東山層の場合に比べ非常に採集地點が少ないので，決定的な事は云ひかねる。

寺泊層　唯 1 ケ所で採集した丈であるが，*Cyclamina pauciloculata* が多數あり，肉眼でも可なり眼につく程であるが，他の種類は殆ど無い。寺泊町の北方新信濃川の岸に露出する寺泊層に於いても *Cyclamina* が非常に多く，他の種類は餘り見當らなかつた。*Cyclamina pauciloculata* の多い



第 2 圖

ことを寺泊層の 1 特色と見ることが出來るであらう。

灰爪層と東山層とを比較して見ると，fauna の顏ぶれが非常に異り，fauna を構成する family の組合せが可なり違ふ。是を明瞭にする爲に次の様な方法を取つた。化石表の產出頻度に A=20, C=10, R=1 の重みを與へ，各 family の重み附けられた產出頻度を出し各產地の產出頻度の總計を算出して，最も多い所を 100 とした場合の各 family の百分率を出す。灰爪層の 3 ケ所の產地に就いて行つた各 family の重み附けられた產出頻度及び最も產出頻度の大きい產地 57 のを 100 とした場合の百分率は第 3 表に示してある。是を圖示したのが第 2 圖 A である。同様の事を野邊川谷の東山層・荒谷層に就いて行つたのが第 2 圖 B である。此の兩者を見れば說明する迄も無く，其の差異が明かである。前にも述べた様に椎谷層の有孔蟲が非常に少く，採集が不充分であつた爲に，灰爪層と椎谷層とに就いて同様な比較は殘念ながら出來なかつた。

擱筆に當り本調査の機會を與へられ，種々御指示，御援助を賜つた日本石油會社の大村一藏學士並に同社地質課の方々に謝意を表する。

第3表

	Loc. 58		Loc. 55		Loc. 57	
	Abundance	%	Abundance	%	Abundance	%
Textulariidae	11	3.9	23	8.1	23	8.1
Vernuilinidae	1	0.4	10	3.5	22	7.7
Valvulinidae	0	0	1	0.4	1	0.4
Miliolidae	13	4.6	60	21.1	58	20.4
Ophthalmidiidae	0	0	1	0.4	0	0
Nodosaridae	1	0.4	16	5.6	12	4.2
Polymorphinidae	3	1.1	17	6.0	9	3.2
Nonionidae	4	1.4	33	11.6	15	5.3
Bulimidae	2	0.7	7	2.5	7	2.5
Rotaliidae	4	1.4	19	6.7	20	7.0
Casiidulinidae	0	0	22	7.7	21	7.4
Chilostomellidae	0	0	2	0.7	0	0
Globigerinidae	14	4.9	37	13.0	43	15.1
Globorotaliidae	0	0	0	0	1	0.4
Anomalinidae	23	8.1	32	11.3	52	18.3
Total	66	26.9	280	98.6	284	100.0

Tertiary Foraminifera from the Amaze Oil Field

(Résumé)

By

Tuneteru Oinomikado

The Amaze Oil Field is situated in Izumozaki-mati, Niigata-ken and eight samples collected therefrom constitute the material of this research. More precisely, three of them were collected from the Haizume Formation, one from the Nisiyama Formation, three from the Siiya Formation, and one from the Teradomari Formation. Fig. 1 shows these fossil localities. The significant Foraminiferas of the faunas contained are listed in Table 2.

Haizume Formation: Loc. 55 and Loc. 57 are situated nearly in the same horizon. Loc. 58 is somewhat upper in horizon than the former two localities. The leading members of the Foraminiferan fauna from Loc. 55 and Loc. 57 are *Textularia sagittula*, *Quinqueloculina vulgaris*, *Cassidulina japonica*, *Globigerina bulloides* and *Cibicides lobatulus*. *Cibicides refulgens* is predominant in Loc. 58, but *Cassidulina japonica* is not found in it. The Foraminiferan fauna from Loc. 55 and Loc. 57 reveals a close affinity with that of Kutta which Yabe and Hanzawa reported in 1923. Here I suggest the Kutta assemblage to designate this fauna in the Amaze and the Nisiyama Oil Fields.

Nisiyama Formation: Only one sample was collected, and the Foraminiferan fauna is very small in the number of species and individuals.

Siiya Formation: Three samples were at hand. *Haplophragmoides subgrobosum and Goësella* sp. 1 are dominant in the one from Loc. 66 and a few species of *Nonionides*, *Buliminidae* and *Rotaliidae* are contained in the two others, but the predominant species in the Haizume Formation can not be found in this.

Teradomari Formation: *Cyclamina pauciloculata* is common.

In order to show the relative abundance of different families in the three localities, Loc. 58, Loc. 55 and Loc. 57, in the Haizume Formation, a value is arbitrarily assigned to each letter in the cheek list: R=1, C=10, A=20. Table 3 shows the number of abundance for each family based on these approximate figures and the percentage of abundance for each family in the three localities when the total number of abundance in Loc. 57 was taken as 100. Fig. 2 A is a graphic interpretation of this table. Fig. 2 B shows the relationship of the families in twelve localities in the Higasiyama and Araya Formations of the Higasiyama Oil Field.

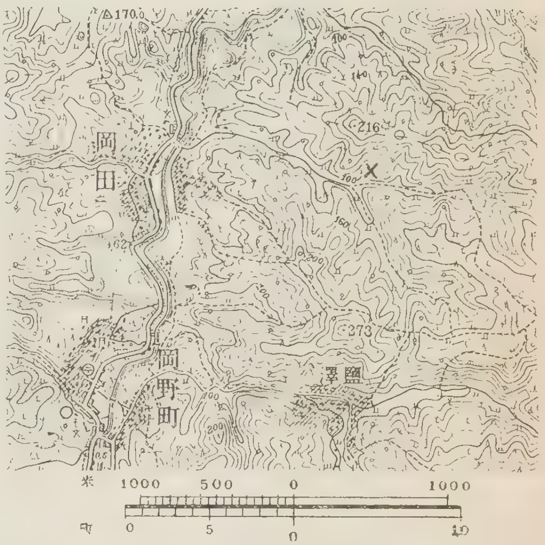
109. 新潟縣下に發見された 2 象齒化石に就て

高井冬二

（昭和 15 年 6 月 15 日受理，6 月 29 日講演）

新潟縣は象齒化石の産出に乏しく，僅に松本彦七郎博士[1]が嘗て柏崎産として *Stegodon orientalis shodoensis* の産出を報告したのみである。然るに縣立柏崎中學校の松浦謙三學士の好意に依り該標本を再調査した處，之は明治 39 年 4 月 13 日刈羽郡高柳村に於て發掘されたもので，それを柏崎町の關甲子次郎氏が同校へ寄贈したといふ事實が判明した。

今回此處にその産出を報告する所の 2 標本は何れも近年の發掘に依るものではないが，資料としては未發表のものであり，且又越後含油地域の層序にも多少の關係を持つ故，それ等の記載と共にそれ等の産出層準に就ても記述をして置く。



第 1 圖 *Parastegodon* cf. *akashiensis* TAKAI の産地

1. *Parastegodon* cf. *akashiensis* TAKAI

本標本は刈羽郡高柳村岡田桐澤地内に於て數拾年前發掘されたもので，同村岡野町の村山龜齡氏の所藏品と成り，現在は新潟市新潟鄕土博物館に保管中である。同館主事松谷時太郎氏の御好意により研究する事を得た。

本標本は右側下顎體破片で，第 1・第 2 の兩後臼齒を備へるが，下顎體の前後兩端及び舌側面後緣は既に破損して居る。

	mm
下顎體現長	315
下顎體高（第 1 後臼齒前緣に於て	152
下顎體高（第 2 後臼齒第 4 稜頰側に於て）	111
下顎體幅（第 2 後臼齒第 4 稜頰側に於て）	123

第 1 後臼齒は極度に磨削され，現在 2 稜半と後踵を殘すにすぎない。最前方の殘存稜を第 1 稜と呼び以下之に準ふ。第 1 稜の前緣及び第 2 稜の頰側前緣が破碎して居るが，その他は皆完全である。第 3 稜の頰側部は第 2 後臼齒の壓迫により前方へ彎曲する。後踵も亦第 2 後臼齒の前端により強く壓迫され，僅にその痕跡が見られるにすぎない。

	幅（咀嚼面）	厚（咀嚼面）	高（舌側）
	mm	mm	mm
第 1 稜	47.0+	—	23.0+
第 2 稜	63.0+	21.0	24.5
第 3 稜	57.0	15.0	20.0
後　踵	22.0	—	16.0

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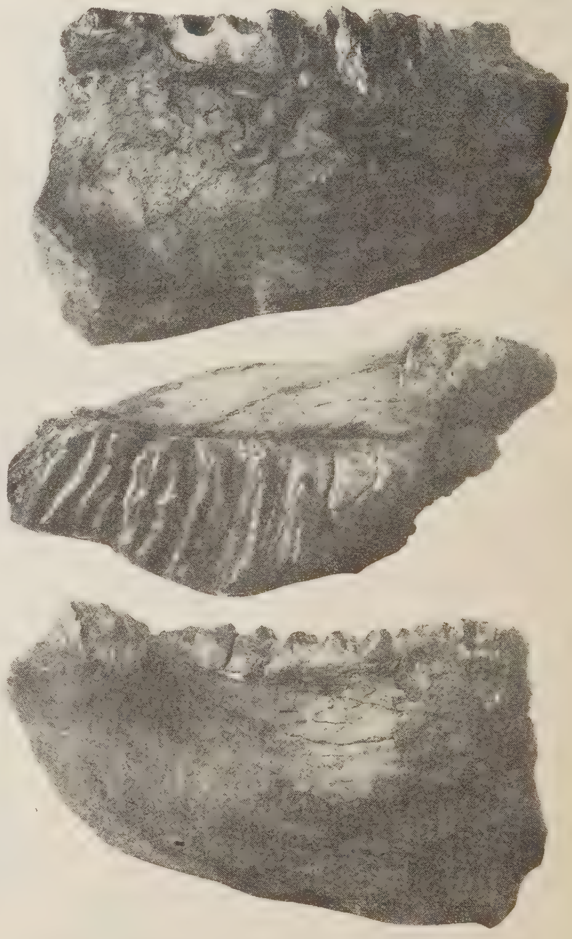
[1] 松本彦七郎： 日本産ステゴドンの種類（略報）. 地質學雜誌，第 31 卷，第 373-374 號，第 335 頁，大正 13 年.

琺瑯質褶襞は餘り顯著ではない。琺瑯質厚は 4〜4.5 mm である。白堊質の充塡は普通である。咀嚼面に於ける長さは 57 mm を計測した。

第 2 後臼齒は現在前踵と之に續く 7 稜を備へ，そのうち第 5 稜目迄磨削を受けて居る。前踵の發達は可なり良い。第 1•第 2•第 3 の諸稜は殆ど完全であるが，第 4•第 5•第 6•第 7 の各稜は何れも舌側面を缺いて居る。中でも第 6•第 7 の兩稜は僅にその存在を知り得る程度で，白堊質により被覆されて居た痕跡が認められるにすぎない。琺瑯質褶襞が餘り顯著でない故，該標本を *Parastegodon akashiensis* に同定する事を差控へる。琺瑯質の厚さは 4〜4.5 mm である。稜間の縱斷面形は U 字型を呈し，白堊質により充塡されて居る。之等の點は該標本が *Parastegodon* 屬に所屬する事を示すものである。

	幅（咀嚼面）	厚（咀嚼面）	高（舌側）
	mm	mm	mm
前　踵	43.5	10.5	25.0
第1稜	67.5	16.0	25.0
第2稜	74.0	15.5	31.0
第3稜	79.5	12.5	41.0
第4稜	—	9.0	57.0
第5稜	—	—	69.0



第 2 圖　*Parastegodon* cf. *akashiensis* Takai　× ¼

本標本の産地は渡邊久吉博士[1]の岡野町油田地にあり，同油田圖幅によれば産地附近には和南津砂岩層が露出して居る事を知つた。該標本の産出地層が段丘層ではないかといふ疑問を持つて昨年 8 月同地方を巡檢した處，同産地附近には和南津砂岩層と思はれる砂•粘土の互層が露出して居る事及段丘層の發達が絶無である事とを確め得た。猶該標本が他地方から出土したものではなからうかといふ疑も生ずるが，此疑問は同村内から他のステゴドン（柏崎中學校所藏）が發掘されて居るといふ事實によつて解消したものと考へる。從つて該標本は和南津砂岩層より由來したものと推定される。

次に柏崎中學校所藏のステゴドンは松本博士が疑問ながらも假に *Stegodon orientalis shodoensis* に同定したものであるが，筆者の再研究によれば稜間縱斷面形の點に於て明かに *Parastegodon* 屬に轉屬されるものである。標本が小破片である爲種名を決定し得ないが，或は新潟郷土博物館所藏標本と同一個體乃至は同一種類のものではなからうかと思はれる。

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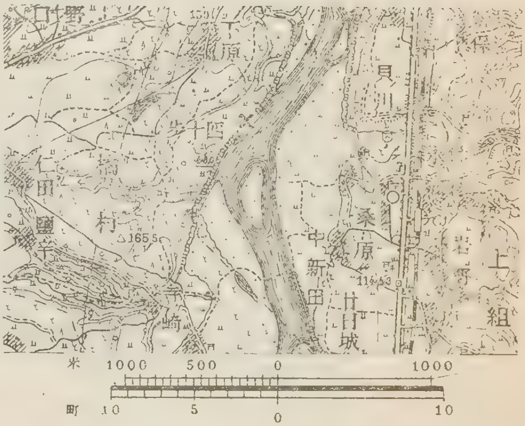
1) 渡邊久吉： 新潟縣岡野町油田地形及地質圖說明書（商工省地質調査所）昭和 13 年.

Parastegodon akashiensis[1] は從來栃木縣安蘇郡赤見村出流原（下部葛生層）・兵庫縣明石郡明石市近傍（西八木粘土層）・長崎縣南高來郡南有馬町大江（*Juglans cinerea* 層）から出土して居る。下部葛生層の地質時代は最新世中期に屬し，他は何れも最新世前期に該當する。

2. *Palaeoloxodon namadicus naumanni* (MAKIYAMA)

本標本は中魚沼郡橘村四十歩に於て發見され，現在は橘尋常高等小學校に保存されて居る。同校長小林國松氏の御好意により研究する事を得た。

本標本は右側下顎第 1 後臼齒で，保存は不良である。前踵は既に破壞され，現在之に續く 10 稜と後踵とを備へ，そのうち第 9 稜目迄磨削を受けて居る。稜は著しく後方へ傾いて磨削され，稜の前緣は何れも破損を受けて居る。咀嚼面は多少舟底式に中凹みである。菱齒渠の發達は顯著ではない。乳狀突起の數は第 8 稜及第 9 稜にて 5 箇，第 10 稜にて 3 箇であつて，後踵は 2 箇の疣狀丘より成る。琺瑯質の褶襞は粗である。琺瑯質の厚さは 2.5〜3.0 mm を計測した。白堊質の充塡は普通である。咀嚼面に於ける長さは 172 mm を計測した。100 mm 中に含まれる稜數は 5 箇である。



第 3 圖 *Palaeoloxodon namadicus naumanni* MAKIYAMA の產地

	幅（咀嚼面）	厚（咀嚼面）	高（舌側）
	mm	mm	mm
第 1 稜	55.0	—	23.0
第 2 稜	65.5	16.5	25.0
第 3 稜	67.5	15.5	32.5
第 4 稜	70.0	15.0	46.0
第 5 稜	75.0	15.0	59.5
第 6 稜	71.5	13.5	70.5
第 7 稜	66.0	12.5	78.0
第 8 稜	58.0	10.5	83.0
第 9 稜	44.5	10.5	86.5
第 10 稜	—	—	83.0
後　踵			57.5

本標本の產地も亦渡邊博士の岡野町油田地にある。昭和 12 年 8 月行つた極く粗雜な觀察によれば，該標本の產出地層は段丘層ではなくその下位を占める小國褐炭層であつた樣に記憶して居る。

Palaeoloxodon namadicus naumanni[2] は本邦各地の最新統から出土して居るが，その最も繁榮した時代は最新世後期である。

終に臨み本稿を校閲下さつた小林貞一博士に對し深く感謝の意を表する。又多大の便宜を與へられた池邊展生・金原均二・松浦謙三・松谷時太郎・小林國松等の諸氏に厚く感謝する。

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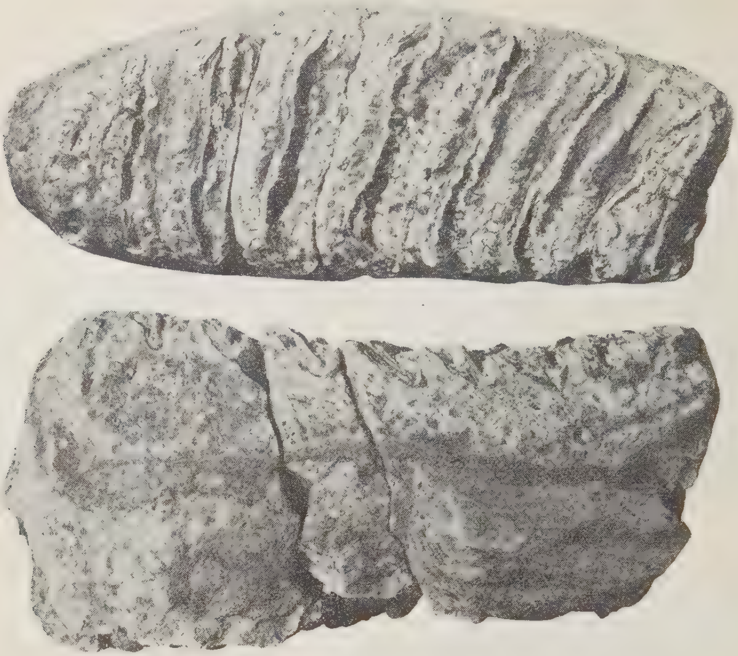
1) 高井冬二： 本邦に於ける新生代哺乳動物（豫報）. 地質學雜誌，第 45 卷，第 541 號，第 754 頁，昭和 13 年.

高井冬二： 本邦新生界產哺乳動物の或ものに就て（其の 1）. 地質學雜誌，第 46 卷，第 552 號，第 485, 486 頁，昭和 14 年.

2) 高井冬二： 前出，昭和 13 年，第 758,759 頁.



第 4 圖 *Palaeoloxodon namadicus naumanni* Makiyama ×½

On Two Teeth of Elephants found in Niigata Prefecture

(Résumé)

By

Fuyuji Takai

(Geological Institute, Faculty of Science, Imperial University of Tokyo)

As fossil elephants have not been known from the prefecture except *Stegodon orientalis shodoensis* described by H. Matsumoto, the present occurrences are of special interest. The one discovered in the Wanazu sandstone formation at Okada, Takayanagi-mura, Kariha-gun is *Parastegodon* cf. *akashiensis* and the other found in the Oguni brown coal bearing formation at Sizyuppo, Tatibana-mura, Naka-Uonuma-gun, is *Palaeoloxodon namadicus naumanni.*

In regard to the horizons which yielded the fossils, the former is indicative of the early Pleistocene age and the latter of the late Pleistocene. Since Pleistocene deposits are not very well represented in the region and opinion has generally been that the Wanazu sandstone formation is late Pliocene, the find of Pleistocene mammalian remains provides important keys for future research. Finally it may be noted that Matsumoto's specimen may possibly be misidentified for it appears to me to be identical with *Parastegodon* cf. *akashiensis.*

日本古生物學會記事

Proceedings of the Palaeontological Society of Japan

昭和15年2月24日 日本古生物學會第18回例會を東北帝國大學理學部地質學古生物學教室に於て開催す（參會者26名)。講演者並に講演題目次の如し。

横濱市下末吉附近の小柴統有孔蟲	大塚彌之助
The Tertiary Foraminifera from the Mariana Islands	Shôshirô HANZAWA
On the Fossil Echinoids from the Sibikawa Beds, Oga Peninsula, Akita Prefecture	Syozô NISIYAMA and Kotora M. HATAI
東北地方の中部中新世化石軟體動物群に就いて	大塚彌之助
仙南地方産中新世貝化石	野村七平・大西弘
Restudy on *Dionide hectori* REED from the Ordovician Formation of New Zealand with a Note on the Classification of the Dionideidae (代讀)	Teiichi KOBAYASHI
福島市附近より發見せる象齒化石と其の産出地層	小林學
東亞産巨角鹿	鹿間時夫
仙臺飛行場産土器に伴ふ植物の遺體	奧津春生
A New Cretaceous Cycads from Amakusa, Kyûsyû, Japan	Hisakatsu YABE and Seidô ENDO

昭和15年4月27日 日本古生物學會第19回例會を東京帝國大學理學部地質學教室に於て開催す（參會者14名)。講演者並に講演題目次の如し。

Corwenia hasimotoi, a New Tetracoral from the Upper Palaeozoic of Sikoku (代讀)	Takumi NAGAO and Masao MINATO
On Some Fossils from the Hukaura Beds, Nisi-Tugaru-gun, Aomori Prefecture, Northeast Honsyû (代讀)	Kotora M. HATAI and Manzirô NAKAMURA
An Interesting *Pecten* from the Nanakita Beds, Nenosiraisi-mura, Miyagi-ken (代讀)	Manzirô NAKAMURA
中新統戸狩階産 *Katelysia nakamurai* (代讀)	池邊展生
On the Occurrence of Trigonioides in Southeastern Manchoukuo	Teiichi KOBAYASHI and Koiti SUZUKI
On Some Freshwater Shells from the Cretaceous Talatzu Series in Southeastern Manchoukuo	Koiti SUZUKI
Nomenclatural Note on *Foerstella*	Teiichi KOBAYASHI
琉球哺乳動物採集談	大塚彌之助
東京府八王子市近傍産化石2種（代讀）	大西弘
A New Species of *Archaeozostera* from Karahuto	Seidô ENDO and T. OMURA
Neurophyllum coreanicum gen. et sp. nov. from the Zidô Series in Northern Korea	Enzô KONNO

昭和 15 年 6 月 29 日　日本古生物學會第 20 回例會を京都帝國大學理學部地質學鑛物學教室に於て開催す（參會者 25 名）。講演者並に講演題目次の如し。

新潟縣柏崎附近の“砂質頁岩累層”中の化石帶	池邊展生・森島正夫
新潟縣尼瀬油田附近產の第三紀有孔蟲化石に就いて	大炊御門經輝
新潟縣新津油田小口層及び大澤石產有孔蟲化石に就いて	大炊御門經輝
渥美半島洪積統の有孔蟲類	槇山次郎・中川　保
On a Triassic Stromatoporoid from Japan	Toshio SUGIYAMA
Characteristic Features of the Yusima Molluscan Fauna (代讀)	Kotora M. HATAI and Shôgo YAMAMOTO
Non-marine Molluscan Faunule of the Cretaceous Siragi Series in South Tyôsen	Koiti SUZUKI
On the Occurrence of *Posidonomya* in the Inai Series from the Southern Kitakami Mountainland, Japan (代讀)	Teiichi KOBAYASHI and Tuneo HUKASAWA
On Two Permian Ammonoids from the Kitakami Mountain (代讀)	Ichiro HAYASAKA
A Study an *Yabeites orientalis* ENDO (代讀)	Teiichi KOBAYASH
新潟縣下に發見された 2 象齒化石に就て	高井冬二
山西省產 *Myospalax* の 1 種に就いて	高井冬二
On Some Interesting Fossil Plants from the Jurassic of Korea	Nobuo KOBATAKE
The Genus *Macclintockia* from the Far-East (代讀)	Seidô ENDO

昭和 14 年 12 月 1 日以降昭和 15 年 6 月 30 日迄の會員移動次の如し。

入會者　淺尾貞雄　加藤泰夫　木原敏夫
小向良七　佐藤晴耕　塚野善藏
柳澤一郎

退會者　大谷壽雄(死亡)　川崎繁太郎(死亡)　德永重康(死亡)
中井猛之進

日本動物命名法委員會報告　1.

昭和 14 年 10 月 27 日

1. 昭和 13 年 10 月 9 日大阪市に於て開かれたる日本動物學會定例評議員會に於て，同會の附屬機關として設置の件可決せられた“日本動物命名法委員會 (Japanese National Committee on Zoological Nomenclature)” は昭和 14 年 10 月 13 日東京帝國大學理學部動物學教室に於て，其の組織を完了し，且會則並に委員會役員を決定した。

2. 第 1 回會議　昭和 14 年 10 月 13 日午前 9 時，東京帝國大學理學部動物學教室にて開催。

出席者 (ABC 順)

江崎悌三・小林貞一・黒田長禮・岡田彌一郎・瀧　庸・矢野宗幹（6 名)。

會則を次の通り決定す。

日本動物命名法委員會規則

1. 本委員會ハ日本動物學會ニ所屬スル機關トス
2. 本委員會ハ次ノ諸事項ヲ審議シ且遂行ス
   a. 國際動物命名法委員會ヨリノ諮問事項ニ關シ本會トシテノ意見ヲ定メ之ヲ申告ス
   b. 國際動物命名法規則ニ關シテ生ジタル問題ヲ審議シ，ソノ意見又ハ報告ヲ國際命名法委員會又ハ國際動物學會議ニ申告ス
   c. 國際動物命名法規約ノ普及ニ必要ナル事業ヲ行フ
   d. 本邦ノ動物ニ關シ又ハ本邦ノ學者ノ發表セル論著ニ於テ命名法ノ立場ヨリ疑義ヲ生ジタル場合ニ之ヲ審議シ，又必要ニ應ジテソノ意見ヲ公表ス
   e. 動物ノ和名ニ關スル事項ヲ審議ス
   f. 本邦ノ動物分類ニ關スル目錄編纂，文獻目錄編纂ソノ他必要ト認メタル事業ノ計畫又ハ援助ヲナス
3. 本委員會ハ次ノ人員ヲ以テ組織ス

委員長　1 名

委員長ハ本委員會ヲ代表シ又會議ノ議長トナル

幹事　1 名

幹事ハ本委員會ノ事務ヲ擔當ス

委員　若干名

4. 委員長ハ國際動物學命名法委員會ニ於ケル本邦代表委員之ニ當リ，幹事ハ日本動物學會庶務幹事ニ之ヲ委囑ス，委員ハ次ノ各項ニ該當スルモノトス
   a. 本邦ニ於ケル關係學會ノ代表者ニシテソノ學會並ニ本委員會ノ承認ヲ經タルモノ
   本委員會ニ代表者ノ參加ヲ求ムル關係學會ハ本委員會ニ於テ之ヲ定ム
   b. 本委員會ニ於テ特ニ推薦シタルモノ
   委員ノ任期ハ之ヲ定メズ
5. 本委員會ハ毎年 1 回會議ヲ開ク，又必要ニ應ジテ臨時會議ヲ開クコトアルベシ
6. 本委員會ノ報告ハ之ヲ動物學雜誌ニ公表ス

本委員會の役員を次の通り決定す

委員長	國際動物命名法委員	江崎悌三
幹事	日本動物學會庶務幹事	竹脇潔
委員	(ABC 順)	青木文一郎
		朴澤三二
	應用動物學會代表	鏑木外岐雄
	日本古生物學會代表	小林貞一
	日太鳥學會代表	黑田長禮
		森下薫
	日本生物地理學會代表	岡田彌一郎
	日本貝類學會代表	瀧庸
		內田惠太郎
		山階芳麿
	日本昆蟲學會代表	矢野宗幹

3. 本委員會に對する申告其の他通信は東京帝國大學理學部動物學教室日本動物學會內日本動物命名法委員會宛に願ふ。

日本古生物學會規則

1. 本會ハ日本地質學會ノ部會ニシテ日本古生物學會ト稱ス
2. 本會ハ古生物學及ビ之レニ關スル諸學科ノ進歩ヲ助ケ斯學ノ普及ヲ圖ルヲ以テ目的トス
3. 本會ハ第2條ノ目的ヲ達スルタメニ總會及講演會ヲ開ク
4. 本會ノ紀事及ビ會員ノ寄稿ハ地質學雜誌ニ掲載シ，其ノ別刷ヲ日本地質學會々員ニアラザル本會々員ニ配布ス
5. 本會ノ會費ハ年額3圓トシ，日本地質學會々員ハ年額1圓トス，但シ一時ニ金100圓以上ヲ寄附セル者ヲ贊助會員ニ推ス
6. 本會ニ次ノ役員ヲ置ク

會長	1名
評議員	數名

7. 役員ノ任期ヲ1年トシ會員中ヨリ總會ニ於テ選擧ス

日本古生物學會役員

會長　青木廉二郎

評議員　*青木廉二郎　伊木常誠　井上禧之助　遠藤隆次
*大炊御門經輝　*大塚彌之助　大村一藏　加藤武夫　金原信泰
木村六郎　*小林貞一　立岩巖　中村新太郎　*長尾巧
*早坂一郎　*藤本治義　村上飯藏　山根新次　*矢部長克
渡邊久吉　（* 常務委員）

事務所──編輯所
東京帝國大學理學部地質學敎室
日本古生物學會
（振替口座東京第84780番）

Constitution of the Palaeontological Society of Japan.

Article 1. The Society shall be known as the Palaeontological Society of Japan. It forms a section of the Geological Society of Japan.

Article 2. The object of the Society is the promotion of palaeontology and related sciences.

Article 3. This Society to execute the scheme outlined under Article 2, shall hold annual meetings and discussions.

Article 4. Proceedings of the Society and articles for publication shall be published through the Journal of the Geological Society of Japan. Separates and circulations will be sent to members of the Palaeontological Society who are not members of the Geological Society of Japan.

Article 5. The annual dues of this Society is two dollars for the foreign members of the Society.

Article 6. This Society shall hold the following executives. President one person, Councillors several persons.

Article 7. The President and Councillors shall be elected annually. The President and Councillors shall be elected from the Society body by vote of its members. All elections shall be ballot.

President Renjiro AOKI

Councillors Renjiro AOKI*
Ichirô HAYASAKA
Tsunenaka IKI
Nobuyasu KANEHARA
Rokurô KIMURA
Hanzô MURAKAMI
Shintarô NAKAMURA
Ichizô ÔMURA
Iwao TATEIWA
Hisakatsu YABE*
Ryuji ENDÔ
Haruyosi HUZIMOTO*
Kinosuke INOUYE
Takeo KATÔ
Teiichi KOBAYASHI*
Takumi NAGAO*
Tuneteru OINOMIKADO*
Yanosuke OTUKA*
Kyukichi WATANABE
Shinji YAMANE*

(* Executive committee)

All communications relating to this Journal should be addressed to the
PALAEONTOLOGICAL SOCIETY OF JAPAN
Geological Institute, Faculty of Science, Imperial University of Tokyo, Japan